Ryan Michaud

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EDUCATION

Oberlin College - Oberlin, Ohio
September 2020 - May 2024
Bachelor's in Computer Science and Musical Studies - 3.96 GPA
Courses - Data Structures, Algorithms, Machine Learning, Machine Listening, Digital Signal Processing

SKILLS

Python, JavaScript, C++, Java, Express, React, Flask, Selenium, MYSQL, PostgreSQL, Git, AWS, Docker

WORK EXPERIENCE

Programmer - Oberlin College Libraries - Oberlin, Ohio
September 2023 - June 2024
- Wrote and maintained Python scripts to automate the upload and downloads of digital resources via API integration with library databases.
- Managed the deployment and upgrades of an open-source Ruby on Rails streaming application using Docker Containers with AWS (EC2, S3, CodeBuild).
- Customized the user interface to improve user experience and college branding.

Networking Assistant - Oberlin College CIT - Oberlin, Ohio
June 2023 - June 2024
- Responded to tickets troubleshooting and resolving physical, datalink, and network layer issues.
- Created thorough documentation detailing network configuration and infrastructure changes.

Lab Assistant/Grader - Oberlin College Computer Science - Oberlin, Ohio
February 2022 - February 2023
- Assisted students with debugging Python and Java code.
- Used automated testing suites to grade lab and problem set submissions.

PROJECTS

Chord Voicing Finder - JavaScript React, Webpack, MYSQL, HTML, CSS
- Developed an algorithm to find all possible ways a group of notes can be played simultaneously on a given string instrument and tuning.
- Built a front end which takes user input and generates unique diagram visualizations of the results.
- Implemented token-based, custom authentication and integrated a Google sign-in option.
- Created an API using REST and JSON-RPC protocols for CRUD operations and server side computations.
- Deployed here on AWS EC2 and RDS with automated tests to ensure core functionality remains intact.

Harmonizer Plugin - C++, JUCE Framework
- Developed a MIDI plugin for a DAW which allows users to explore constant structure harmony by harmonizing incoming MIDI notes in real time with all possible inversions of a user provided chord.
- Created a console app to run unit tests and ensure future changes do not compromise core functionality.

Competitive Chore Management System - Vite, TypeScript, React, Python, Flask, PostgreSQL
- Created a full stack application to assign recurring chores, award points, and track chore completion history.
- Implemented custom token based authentication to allow users to change the status of their own chores.
- Automated browser interactions with Selenium for end to end testing.